National Aeronautics and Space Administration

SATERN

System for Administration, Training, and Educational Resources for NASA

PQE

Classroom Guide

(Version 5.8 SP5)

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For SATERN Learning v 5.8 SP5

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From the NASA SATERN Program Office:

All SATERN administrator training materials must be used alongside the SATERN Rules and Process Guide for administrators. The Guide identifies areas where SATERN functionality cannot enforce the Agency-defined usage of the system at NASA and provide guidance to enable administrator compliance with Agency-defined methods and procedures.

Table of Contents

Course Introduction

Through lecture, activities, and hands-on computer lab work, this course teaches you the concepts and terminology associated with using PQE. You will create questions and objectives used in online exams. Topics include PQE, terminology and definitions, questions, and objectives.

Course Objectives

The objectives of this course are to teach and assist SATERN administrators on using PQE and creating online exams.

Upon completion of this course, you will be able to:

- Describe PQE
- Add and edit questions in SATERN using PQE
- Create question variants
- Create objectives
- Associate questions to objectives

Target Audience

This course is intended for administrators and course developers responsible for creating and maintaining the exam question database in the SATERN system using PQE.

USING THIS GUIDE

This classroom guide is designed to be used in conjunction with an instructor. The guide provides general information that will be elaborated upon by the instructor. For additional information, refer to the online help.

Throughout the guide, you encounter icons that call out various types of information. The following table illustrates how this guide uses icons to indicate different types of comments, activities, labs, etc. that support the text.

Icon	Definition
	**Activity**: Indicates an activity for you to complete that helps reinforce the information you just learned.
	**Note** or **Tip**: Indicates additional information that is related to the information presented. It also provides helpful hints and tips or other guidance that further explains the information it accompanies.
	**Lab**: Indicates a hands-on computer lab. Follow the step-by-step process outlined to perform specific tasks in the system.
	**Warning**: Warns against particular actions, or that a particular condition might indicate a problem.

ADDITIONAL RESOURCES

There are a number of additional resources that can provide you more information about the SATERN system. These resources include:

- Online SATERN system help
- Task-specific job aids

Lesson 1: Online Exams Overview

The goal of Lesson 1 is to establish a general understanding of the concepts and terminology associated with online exams created with PQE.

OBJECTIVES

Upon completion of this lesson, you will be able to:

- Describe PQE
- List the steps involved in creating an online exam using questions from PQE
- Define the terms associated with online exams

WHAT IS PQE?

PQE allows you to create questions inside SATERN and associate those questions to an online exam. When an exam is associated with an item, learners can launch the exam from their Learning Plan and upon completion of an exam, a learner’s score is tracked. If enabled, the learner can also review the questions on the exam.

SATERN allows administrators to specify system behaviors and rules for recording learners’ evaluation data based on their performance on exams.

SATERN Exam Process Flow

In general, the steps involved in creating exams in PQE are (Figure 1):

1. Create questions in PQE related to the objectives.
2. Identify and create the objectives (optional, but needed for question pooling on exams).
3. Create a new exam.
4. Add questions to the exam.
5. Create a new item.
6. Add exam to the item.
7. Define online settings for the item.
8. Test the item and exam in the SATERN learner interface.

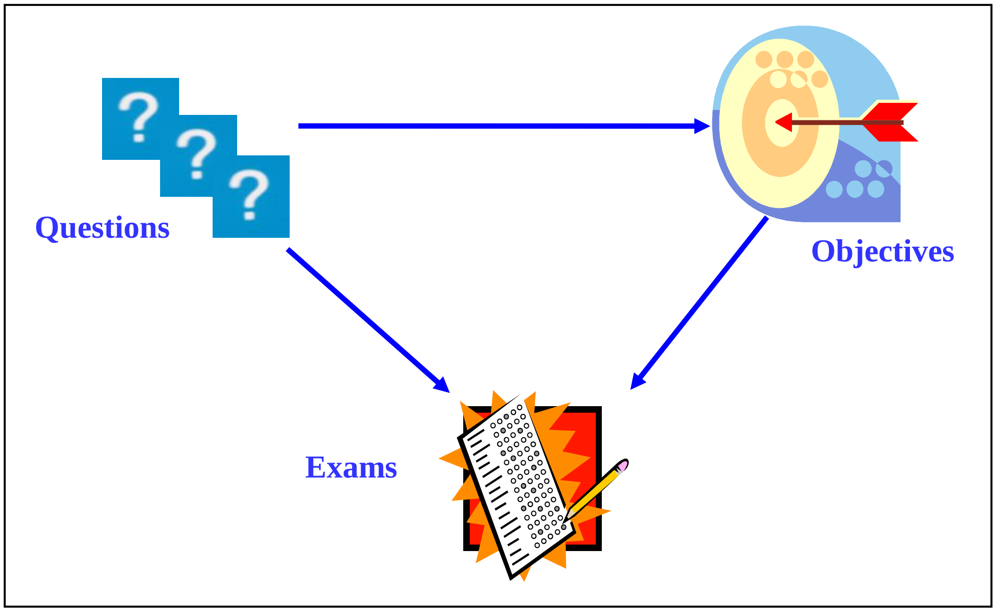


Figure 1. SATERN Exam Process Flow

GLOSSARY OF KEY TERMS

Table 1 provides a list of key PQE terms used in this guide and their respective definitions.

Table 1. Terms and Definitions

Term	Definition
Adaptive Learning	Learning based on exam results. When learners answer questions correctly, they complete the relevant content object(s) in the item automatically. When learners answer questions incorrectly, the content covering these objectives remain incomplete.
Distractor	Each possible answer provided to the learner to select. One or more distractors may be correct, depending on the question type.
Exam Object	Contains questions intended to evaluate learners' understanding of a topic.
Objective	Statement of what learners are expected to know and do once they have completed a specific course of instruction.
Online Item	An assignable unit that can be tracked in the SATERN system. These items are available to learners to launch at anytime from anywhere.
Question	Used in exams and provides learners with opportunities to distinguish the correct answer from a list of possible answers. Questions can be associated with objectives.
Question Stem	The text that is the question itself, such as "Which of the following images is a Stop sign?"
Question Type	The way in which the question is constructed that dictates how learners are to answer. SATERN supports multiple choice with a single correct answer, multiple choice with multiple correct answers, and true/false question types.
Variant	One or more ways to ask a question that tests the same knowledge.

CONCLUSION

Lesson 1 introduced you to the basic concepts of PQE and the use of exams. Additionally, you were introduced to important terms applicable to the online exams functionality.

You should now be able to:

- Describe PQE
- List the steps involved in creating an online exam using questions from PQE
- Define the terms associated with online exams

In the next lesson, you will learn how to use PQE to create objectives and questions.

Lesson Check

Use what you learned in this lesson to answer the following questions.

1. Fill in the blanks:

   PQE incorporates the use of ____________ that are tied to a specific item of knowledge that learners should learn. ______________ may be tracked and assessed with SATERN's exam functionality. _______________ within an exam may be tied to objectives; upon completion of an exam, learners are informed of the objectives they have mastered and those that they need additional review.

2. Match the terms in Column A to their respective definitions in Column B:

	Column A	Column B
	Adaptive Learning	Statement of what learners are expected to know and do once they have completed a specific course of instruction.
	Distractor	Learning based on exam results.
	Exam Object	Used in exams and provides learners with opportunities to distinguish the correct answer from a list of possible answers.
	Objective	The way in which the question is constructed that dictates how learners are to answer. Choices include one correct answer, multiple choice with multiple correct answers, and true/false.
	Question	Each possible answer provided to the learner to select. One or more may be correct, depending on the question type.
	Questions Stem	One or more ways to ask a question that tests the same knowledge.
	Question Type	Contains questions intended to evaluate learners' understanding of a topic.
	Variant	The text that is the question itself, such as "Which of the following country is in Europe?"

Notes

Lesson 2: PQE

The goal for Lesson 2 is to become familiar with PQE and be able to add questions using the PQE tool. The hands-on activities provide you with opportunities to practice lessons learned.

Objectives

Upon completion of this lesson, you will be able to:

- Explain the main concepts of PQE
- Add questions in PQE
- Add question metadata
- Search for question records in SATERN
- Create question variants

Basic Concepts for Working with Questions in PQE

All questions have three main parts: the question stem, the correct answer, and one or more distractors (Figure 2). Each question in PQE is made up of a question box that remains stationary, and any number of distractors (possible responses). The distractors may be presented randomly to the learners on an exam. Images can also be added as part of the question or as distractors.

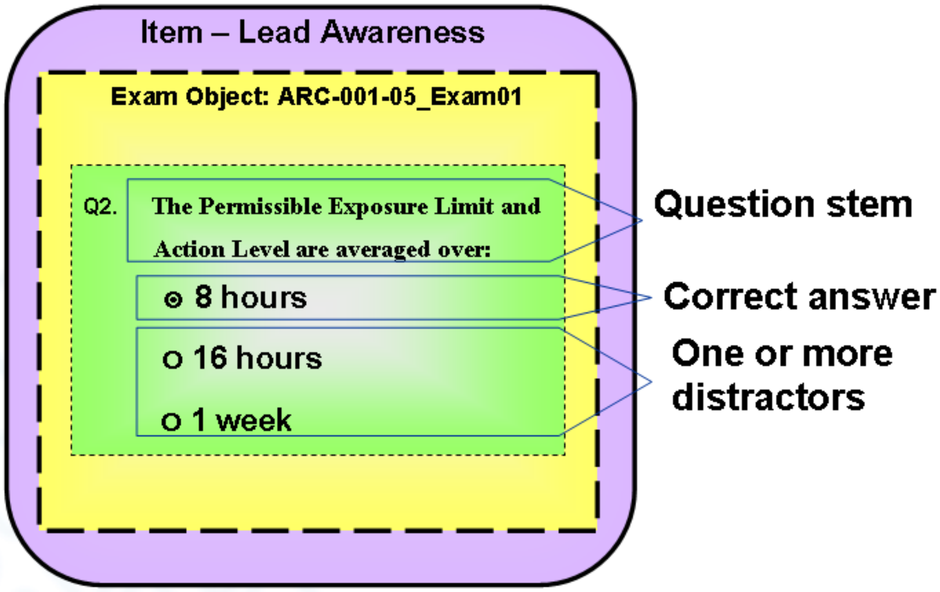


Figure 2. Parts of a Question

When used on a SATERN exam, each question displays on a single screen giving learners the opportunity to demonstrate their ability to select the correct answer from a list of possible answers.

Question types determine how learners select answers and what answers are possible in a question variant. The question types in PQE include:

- **True/False:** Learners select one of two distractors: *True* or *False*.
- **Multiple Choice/Single Answer (MCSA):** Learners select one of multiple distractors as the correct answer to the question.
- **Multiple Choice/Multiple Answer (MCMA):** Learners select one or more multiple distracters as the correct answer(s). Learners receive credit only when all correct answers are selected.
- **External:** Questions imported from another application outside SATERN.

UNDERSTANDING THE SCREEN LAYOUT

The PQE interface is different from the other features and tools in SATERN. It is important for you to understand how to navigate around PQE in order to use the tool effectively and efficiently, and to learn the available tools that will help you as you develop questions in PQE. The screen layout for questions contains several important sections (Figure 3), including:

- **Header:** Displays the question name
- **Question setting menu:** Lists each variant of the question including the revision number, question type, and settings
- **Editing and formatting menu:** Provides the tools to edit and format the question

Note: *See the "Editing, Options, and Formatting Toolbars and Menus" section for more details.*

- **Question stem:** Displays the question content
- **Correct answer:** Select the radio button to identify the correct answer(s) to the question
- **Distractors:** Displays the incorrect answers

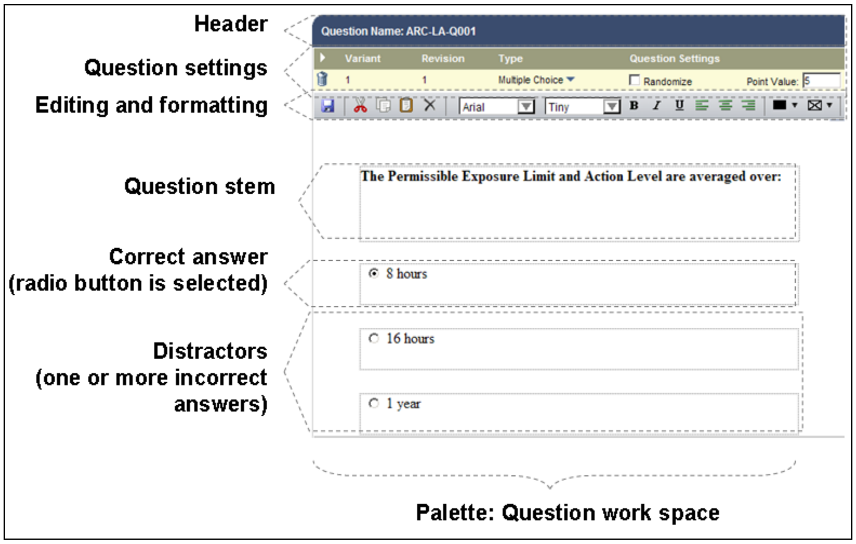


Figure 3. Question Screen Layout

CREATING A QUESTION IN PQE

As previously described, a question is made up of the question text (question stem) with optional supporting graphics, a correct response (correct answer), and several incorrect responses (distractors). For the basic exam question, you do not need to associate any objectives.

To create a new basic question in PQE:

1. Log in to the admin interface of SATERN.
2. Navigate to **Content > Questions**.

   The *Questions Search* screen displays (Figure 4).

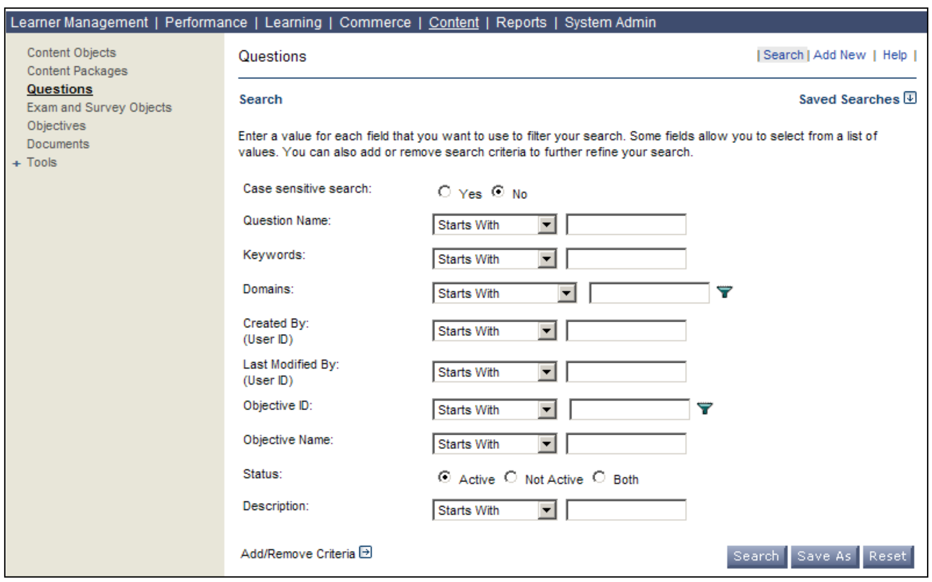


Figure 4. Questions Search Screen

3. Click **Add New**.

The *Add New Question* pop-up window displays (Figure 5).

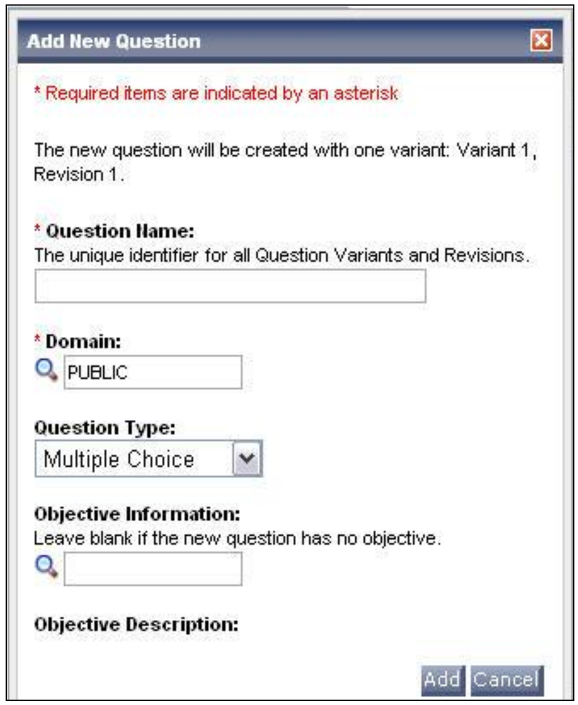


Figure 5. Add New Question Pop-Up Window

4. Enter the question name and domain. The question name is the ID of the question.

NASA Business Rule

Question IDs start with the Center acronym.

Note: *If you do not know the domain, click the* ***search icon*** *to search for and select the domain.*

5. Select a question type from the **Question Type** drop-down menu.

6. Click **Add**.

Note: *We will discuss the details for associating objectives to an exam question later.*

You are taken to the *Questions Add New* screen (Figure 6).

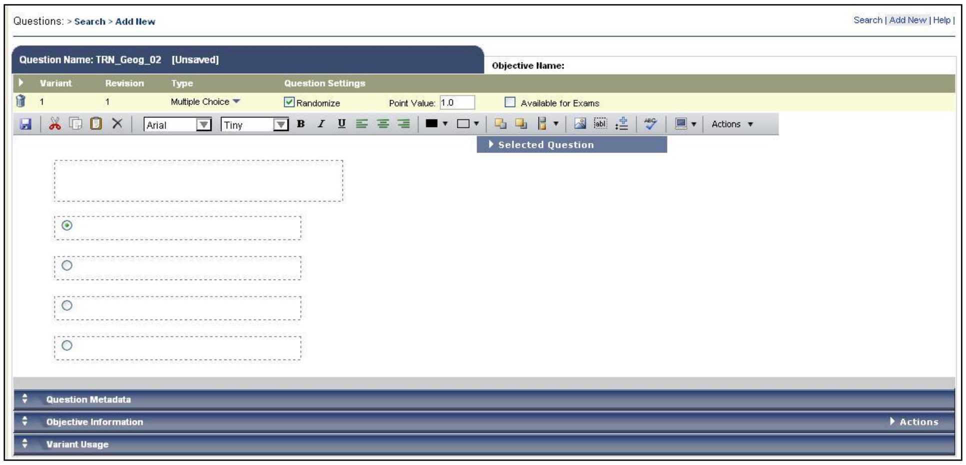


Figure 6. Add New Questions Screen

7. Double-click in the top box and enter the question stem.
8. Double-click in each of the following boxes with the radio buttons and enter the answer choices for the question.

Note: *Enter the correct answer in the textbox with the selected radio button.*

9. When you have finished entering your question stem and answer choices, click the **Available for Exams** checkbox to make this question active.
10. Click **Save Question** ( ) to save the question.

Lab 1. Creating a New Question in PQE

Step

1. Log in to the admin interface of SATERN.
2. Navigate to **Content > Questions**.
3. Click **Add New**.
4. Enter the question name and domain.
5. Select a question type from the **Question Type** drop-down menu.
6. Click **Add**.
7. Enter the question stem in the appropriate textbox.
8. Enter the correct answer and distractors.

Note: *Check the radio buttons and check boxes as appropriate.*

9. Click the **Available for Exams** checkbox.
10. Enter a description and relevant keywords for the question in the Question Metadata section.
11. Click the **Save Question** button in the toolbar.

Understanding the Question Metadata Section

Metadata is used to uniquely identify each question. When you create a new question, you enter the question name and domain. In the PQE question workspace, you can add a description and relevant keywords for the question in the Question Metadata section (Figure 7). This information can be useful when searching for the question.

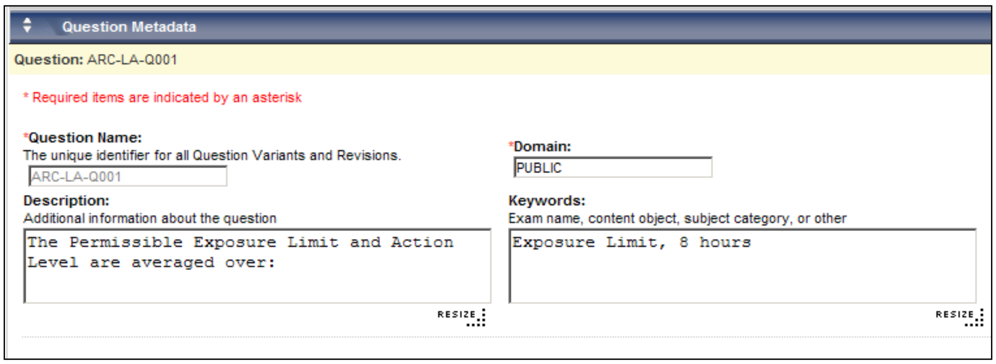


Figure 7. Question Metadata

Lab 2. Adding Question Metadata

Step

1. Using the question created in Lab 1, click the arrows on the Question Metadata section to expand the section.

Note: *If you already navigated away from the question, search for the question and access it in edit mode (see "Searching for Questions" for details on how to search for questions in PQE).*

2. Enter a domain (administrative group that controls the question record).

3. Enter a description of the question.

4. Enter keywords that can be used to locate the question when conducting a search. Separate keywords with a comma (i.e., *keyword, keyword, keyword*).

5. Click the **Save Question** button in the toolbar.

SEARCHING FOR QUESTIONS

Searching for questions is the same as searching for other records in SATERN. You need to search for questions when you need to make changes to the question, or when you are ready to add questions to an exam object.

To search for questions in SATERN:

1. Navigate to **Content > Questions**.

   The *Questions Search* screen displays (Figure 8).

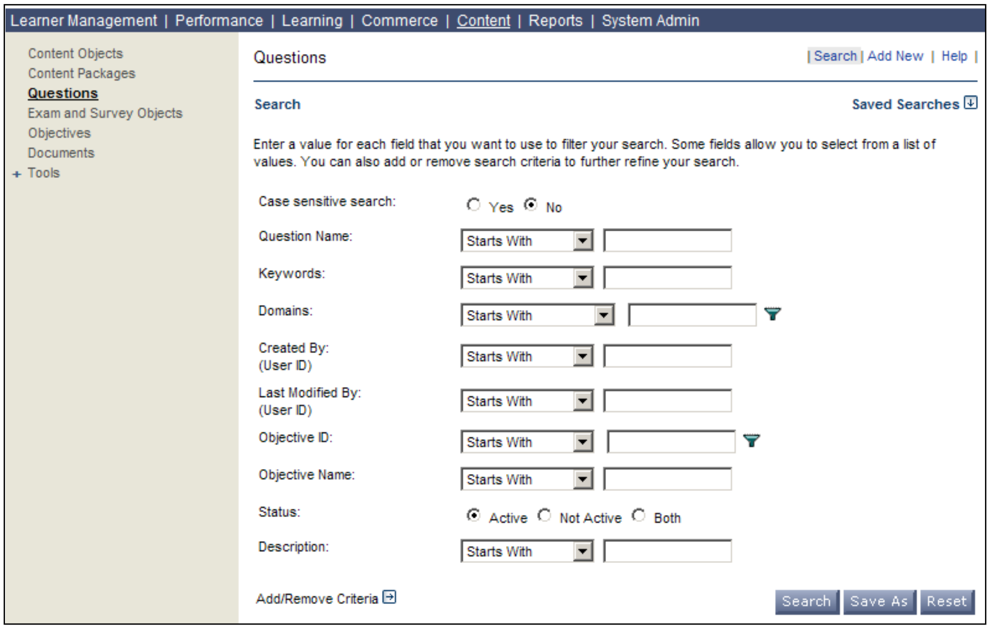


Figure 8. Questions Search Screen

2. Enter any criteria to search for the question.

__Note:__ The default search criteria are the objectives identifier. Click the __search filter icon__ ( ) to search for objectives by objective ID or other criteria.

3. Click **Search**.

   The search results are listed. The search results list includes all the question records that match your search criteria. Each question listed includes the ID and name of the objective the question is associated with (if any), the question name, and the number of variants for each question (Figure 9).

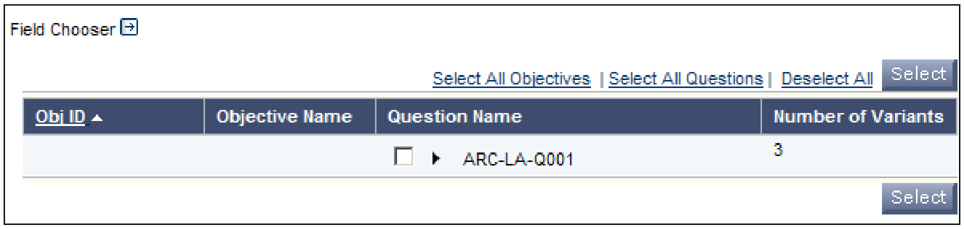


Figure 9. Search Results

4. To see the question variant details from the search results list, click the **expand arrow** to the left of the question name.

   The questions variants are listed. You can now see each variant of the question with its revision number, question type, stem, and status (Figure 10).

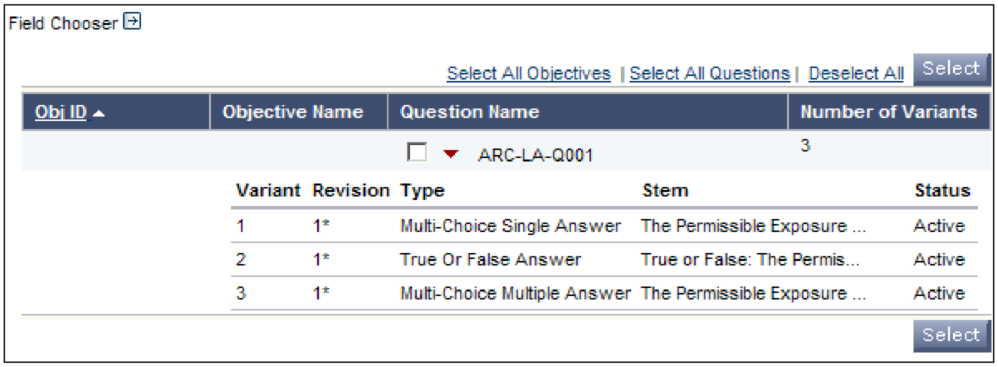


Figure 10. Question Variants Displayed in Search Results List

5. Click the check box under the Question Name column for the question you are searching for.
6. Click **Select**.

Your question workspace is displayed and ready for editing (Figure 11).

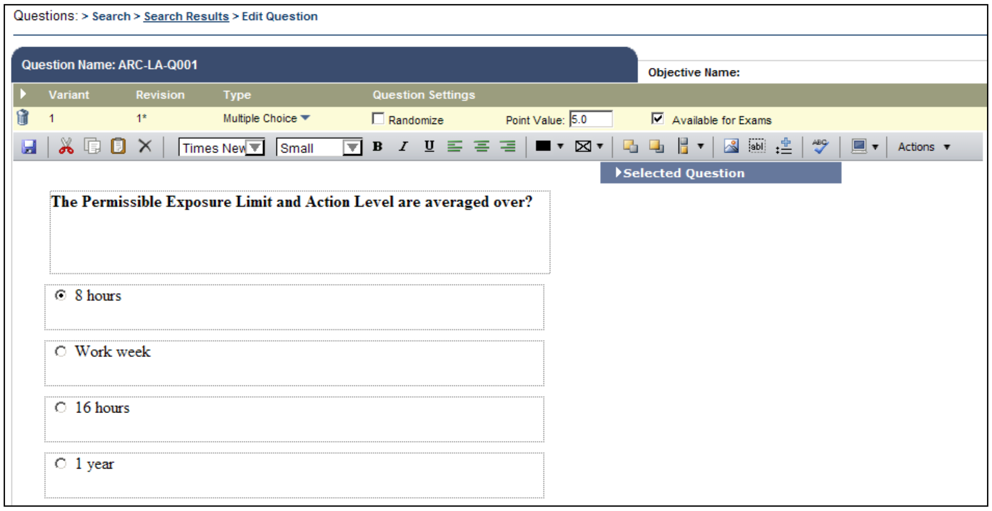


Figure 11. Question Workspace

Understanding the Actions Menu

The Actions menu contains some commands that duplicate toolbar commands, and other options that can only be found in the Actions menu (Figure 12).

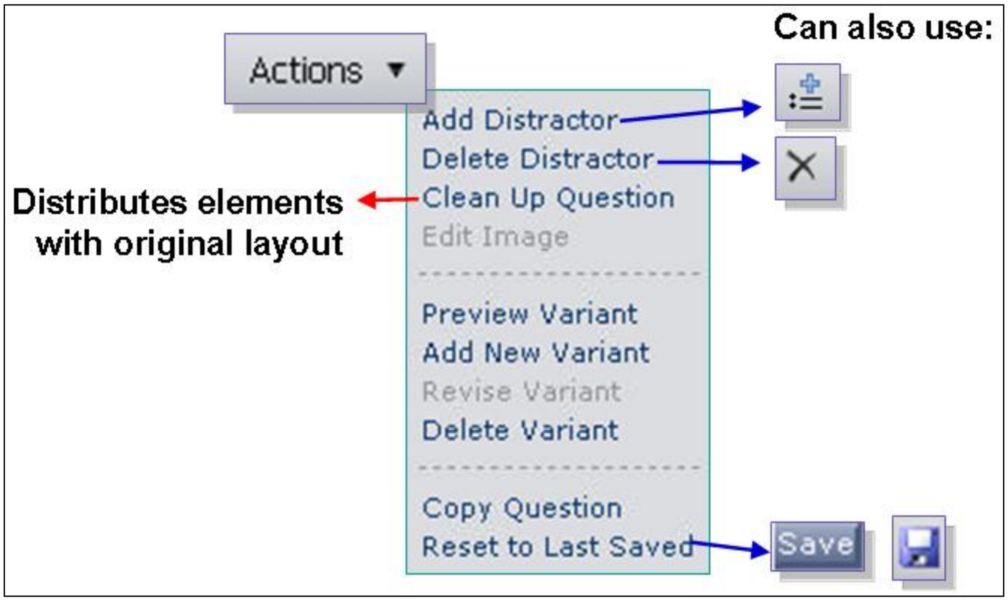


Figure 12. Actions Menu

Table 2 provides the options in the Actions menu and a description of each action.

Table 2. Actions Menu Options and Description

Action	Description
Add Distractor	Adds a distractor to the question. The behavior of the command depends on the type of question you select.
Delete Distractor	Deletes the selected distractor.
Clean Up Question	Resets the question objects to their default positions: aligned to the left with distractors under the question stem.
Preview Variant	Opens a preview of the question to give you an idea of how it looks in a runtime exam.
Add New Variant	Adds a new variant to the question. You can only add variants once you have saved the first variant.
Delete this Variant	Deletes the variant that is currently selected in the variants area and that appears in the workspace. If a question has only one variant, you cannot delete it.
Revise this Variant	Creates a new revision of the active variant (the one selected in the variant list). Variants can have multiple revisions, but only one active revision. To set the active revision, click its **Active** checkbox in the variant list.
Copy Question	Copies the question and all its variants. You must give the new question a unique name. Copying questions is a useful way to copy objectives and question metadata into a new question, but if you want to ask the same question in a different way, consider adding a new variant.
Reset to Last Saved	Reverts your work on the variant to the last time you saved.
Delete Question	Deletes the question and all its variants
Apply Changes	Saves the question and variant information.

Understanding the Selected Question Menu

When you open a question, you see the *Selected Question* menu. By default, the menu options are collapsed; click the **expand arrow** to see the menu options (Figure 13). This menu contains all the questions that you want to work with, and you can use this menu to navigate between question variants. Click the different questions in the palette to open the question (and its variants) in the workspace.

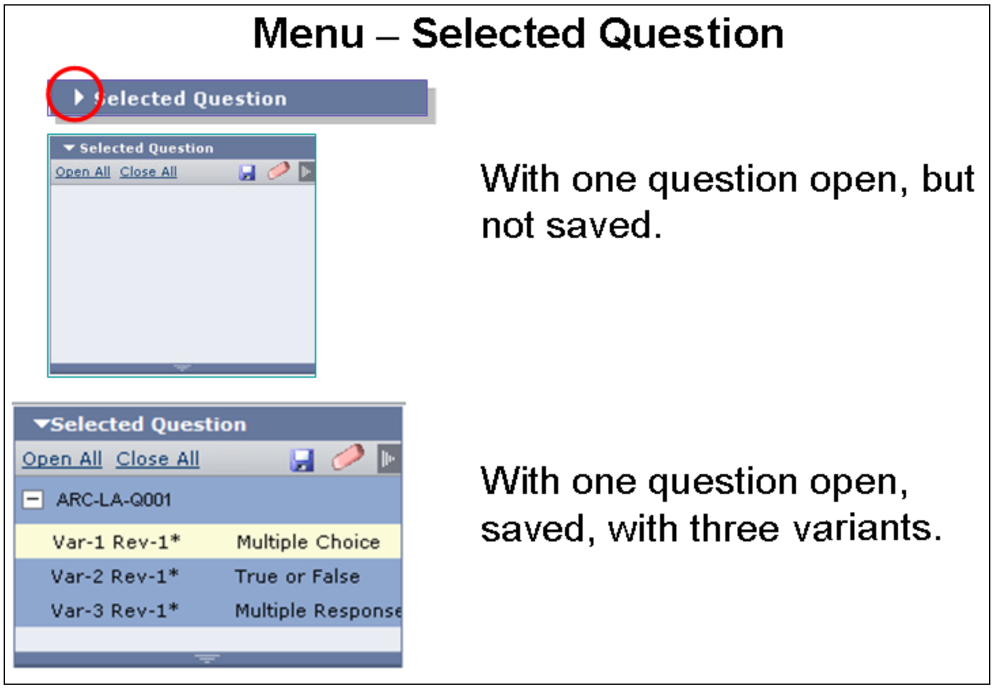


Figure 13. Selected Question Menu

Table 3 provides a description of each option in the Selected Question menu.

Table 3. Selected Question Menu Options and Descriptions

Option	Description
Open All Close All	Click the **Open All** and **Close All** links to expand all the questions to see all their variants or collapse all the questions to hide their variants.
Question Type Codes	Each variant's question type is represented by a code: T/F: True/False MCSA: Multiple-Choice, Single Answer MCMA: Multiple-Choice, Multiple Answer
Save Question	Saves the questions.
Remove Changes	Reverts the changes since the last time you save.

WORKING WITH AND NAVIGATING BETWEEN VARIANTS

Once you have added and formatted your question, you may want to create variants for that question. Each variant is a different way to ask the same question, like different word problems that ask the same underlying problem. All questions have one or more variants, and each variant of a question can use a different question type. All variants, however, share the same question name (seen in the Question Metadata section of the screen).

The variant table contains all variants of a question. Click the **expand arrow** ( ) to see all variants of the question (Figure 14).

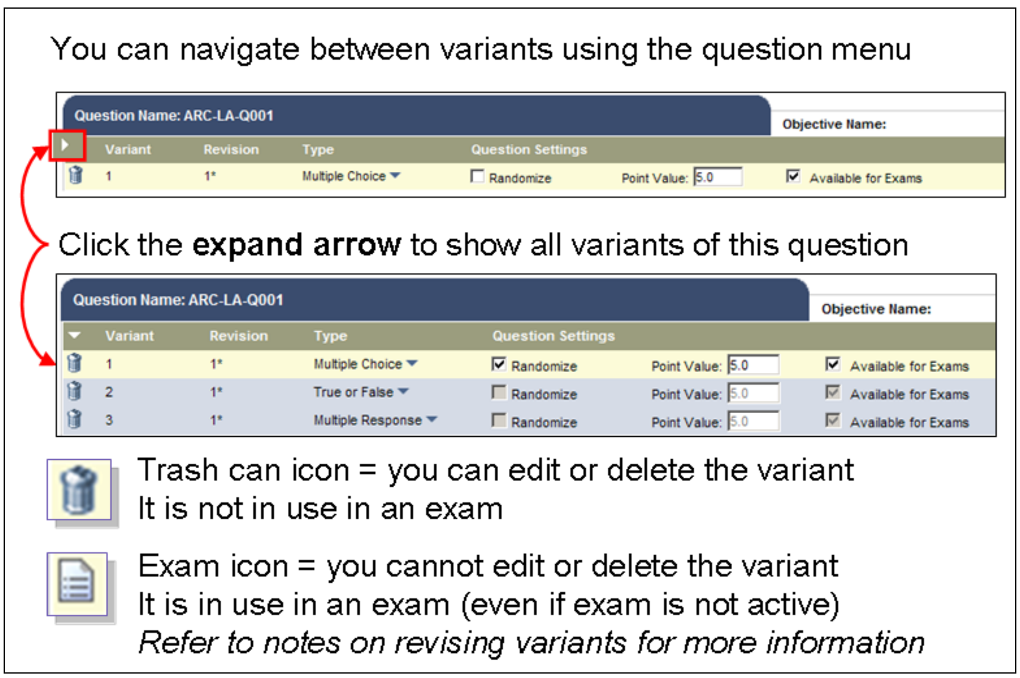


Figure 14. Variant List

The variant table contains the following information:

- **Variant Status Icon:** The icon changes depending on what you can do with the variant. If you can delete the variant, the Delete Variant icon ( ) displays. If it is part of an exam (and therefore cannot be deleted), the Exam icon ( ) displays.

- **Variant:** The unique ID of the variant. Each variant has a unique ID that is assigned sequentially as you add variants. It is a system ID that is relevant to keeping the variants distinct.
- **Revision:** As you revise the variant, the revision number increases. Higher revisions have been saved more often.
- **Type:** The type of answers that can be given to the question.
- **Question Settings:** Settings that control the behavior and scoring of the question.
- **Point Value:** The points assigned to each variant that is used in scoring the question.
- **Available for Exams:** Makes variant revision available and active for use in exams. Only one variant revision is available at a time.

You can also navigate to variants of a question using the *Selected Question* menu in the PQE workspace (Figure 15).

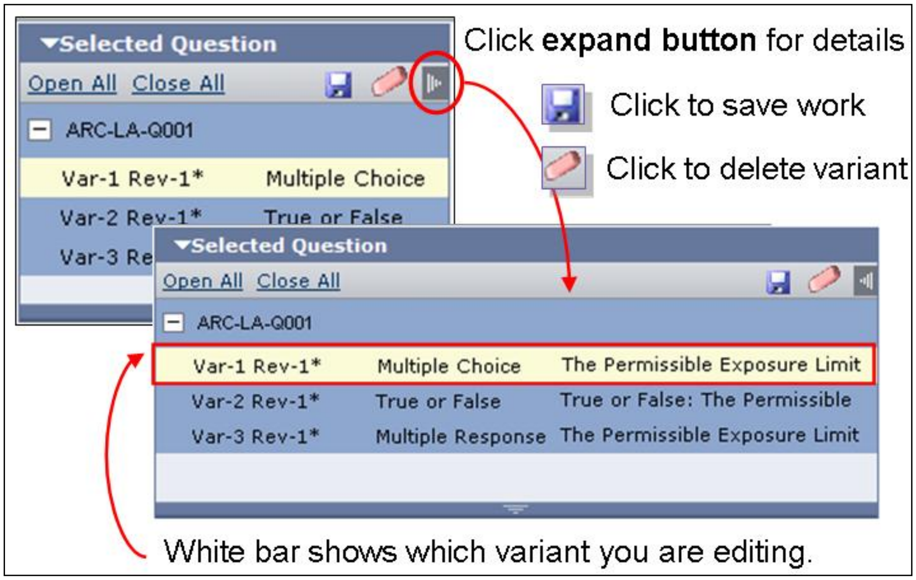


Figure 15. Variants in the Selected Question Menu

To create a variant of a question in PQE:

1. Search for and access a question record in edit mode.

Note: *See "Searching for Questions" section for details on searching.*

The *Edit Question* screen displays (Figure 16).

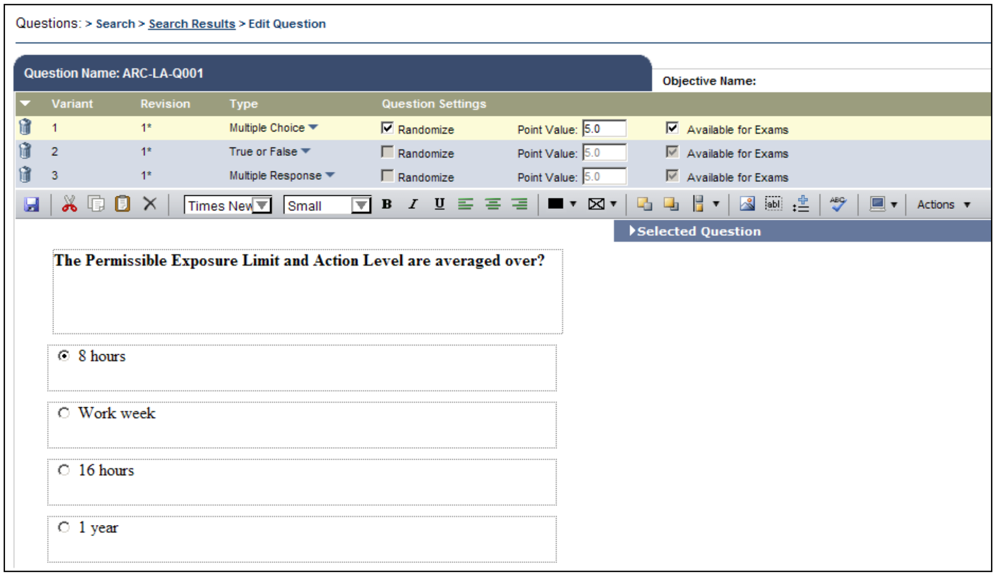


Figure 16. Edit Question Screen

2. Click the **Actions** button.

3. Select **Add New Variant** from the drop-down menu.

A new variant is added to the list and the workspace is ready for you to enter your question variant (Figure 17).

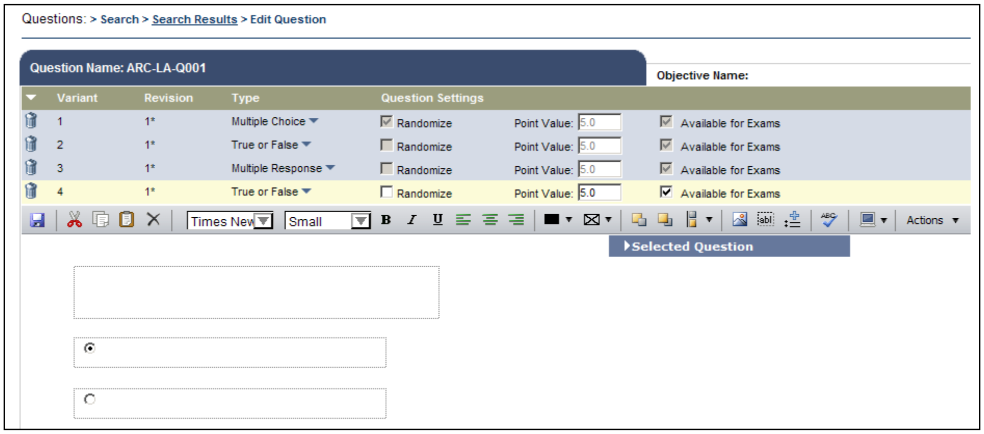


Figure 17. New Variant

4. Click the **Type drop-down** in the variant Type column to select a new question type if desired.
5. Double-click in the top textbox and enter the question stem.
6. Double-click in each textbox below the question stem to enter the correct answer and distractors.
7. Enter question metadata as necessary.
8. Check the **Available for Exams** checkbox to make the variant available and active.
9. Click **Save** to save the question variant.

Later in this guide, you will learn how these question variants are used in exams.

Lab 3. Adding a Variant

Step

1. Using the question created in Lab 1, click the **Actions** menu.

   Note: *If you already navigated away from the question, search for the question and access it in edit mode (see "Searching for Questions" for details on how to search for questions in PQE).*

2. Select **Add New Variant** from the drop-down menu.

3. Change the question type.

4. Change the point value of the variant.

5. Enter the question stem.

6. Enter the correct answer and the distractors.

7. Enter any appropriate metadata in the Question Metadata section.

8. Make the question variant available for all exams.

9. Save the question variant.

CONCLUSION

In this lesson, you learned about the many characteristics of PQE. Through step-by-step instructions, you created an objective and associated it with a question. Additionally, you learned to search for questions, create new questions, and format questions.

You should now be able to:

- Explain the main concepts of PQE
- Add questions in PQE
- Add question metadata
- Search for question records in SATERN
- Create question variants

In the next lesson, you will learn to create objectives and associate questions to objectives.

LESSON CHECK

Use what you learned in this lesson to answer the following questions.

1. PQE allows:
   a) Images to be imported for use in questions.
   b) Text editing features.
   c) Question preview.
   d) All of the above.

2. True or false:
   PQE is a separate application and needs to be loaded locally for use.

3. Which of the following is **not** true regarding a question's appearance in PQE?
   a) Graphics can be imported.
   b) Two questions can appear on the same page.
   c) Answers can be randomized.
   d) Questions can be randomized.

4. True or false:

   While taking an exam, learners see only one revision of a question variant on their screen.

5. PQE allows the admin to:
   a) Create multiple versions of the same question.
   b) Determine the number of distracters to use.
   c) Make the individual questions *active* or *inactive*.
   d) All of the above.

Lesson 3: Objectives

In Lesson 3, you will use the questions, objectives, exams, and content objects to implement adaptive learning through the SATERN system.

OBJECTIVES

Upon completion of this lesson, you will be able to:

- Identify basic concepts of working with objectives in PQE
- Create objectives
- Tie questions to objectives

BASIC CONCEPTS FOR WORKING WITH OBJECTIVES IN PQE

A learning objective is a set of words, pictures, and/or diagrams that let others know what you intend for your learners to achieve upon completion of a specified section of instruction. Objectives are related to learning outcomes and are designed to be specific and measurable.

If you want the online course to provide for delivery and remediation at an objective level, then the objectives must be linked directly to the online content. Questions can be associated with the learning objectives that have been created. These associations can be useful in tracking which objectives have been attempted and/or successfully mastered by your learners. Associating objectives with questions creates question pools. Exams that draw from a pool of questions are more randomized.

Objectives Support Adaptive Learning

Objectives provide a way for the system to identify learner learning needs, based on exam results:

1. Define a content object with desired objectives.
2. Configure an exam with questions that test these objectives.
3. Add the content object and the exam object to an item.
4. Set up the item so objective status matches exam results:
   - If learner passes the objectives associated with a content object, the status of the content object is set to *Complete*.
   - If learner fails the objectives associated with a content object, the content object is *Incomplete*.

Adaptive tests use the objective as a connection between content objects and test questions in an item. If a learner passes an objective, he/she also passes the content object. By passing the content object, the learner can avoid reviewing it (in the case of a post-test) or avoid taking the content object completely (in the case of a pre-test).

Here is how the objective-based questions display in two exam iterations (Figure 18):

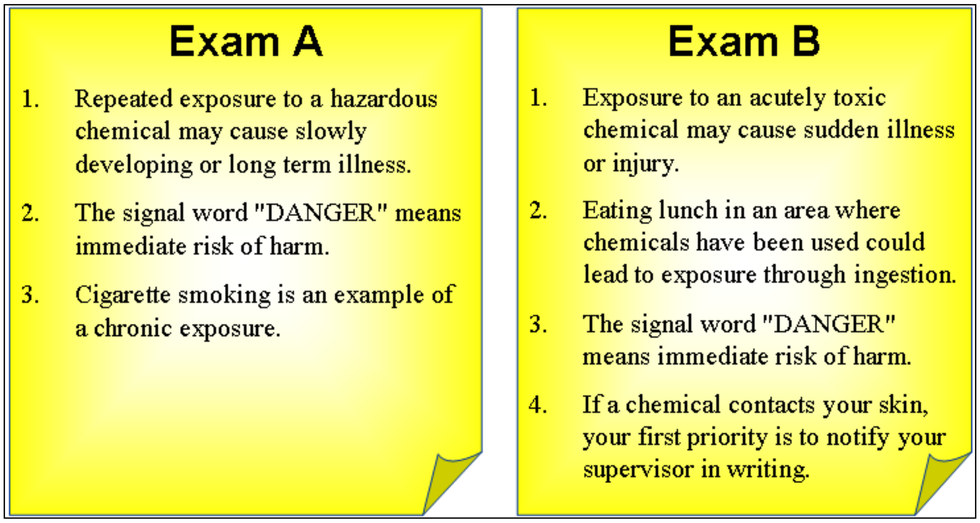


Figure 18. Two Iterations of an Objective-Based Exam

Admins can:

- Create objectives first, then associate with questions
- Create new objectives while editing a question

Associating an Objective with a Question

Questions can have an associated objective. Objectives define the knowledge learners should achieve through training; the questions test learners' knowledge to determine whether the objectives for the training are achieved. There are two ways administrators can associate objectives with questions:

- Create the objective first, and then associate it to the questions
- Create a new objective while editing a question

Creating an Objective and Associating with a Question

To create an objective and then associate that objective to a question:

1. Navigate to **Content > Objectives**.

   The *Objective Search* screen displays (Figure 19).

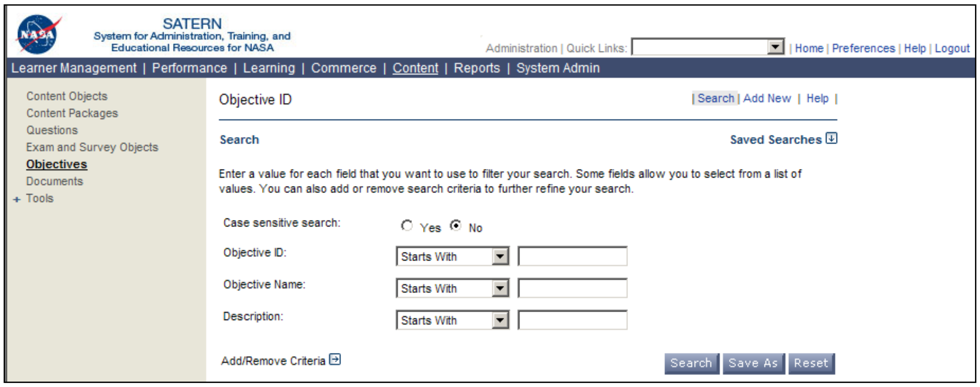


Figure 19. Objective Search Screen

2. Click **Add New**.

   The *Add New Objectives* screen displays (Figure 20).

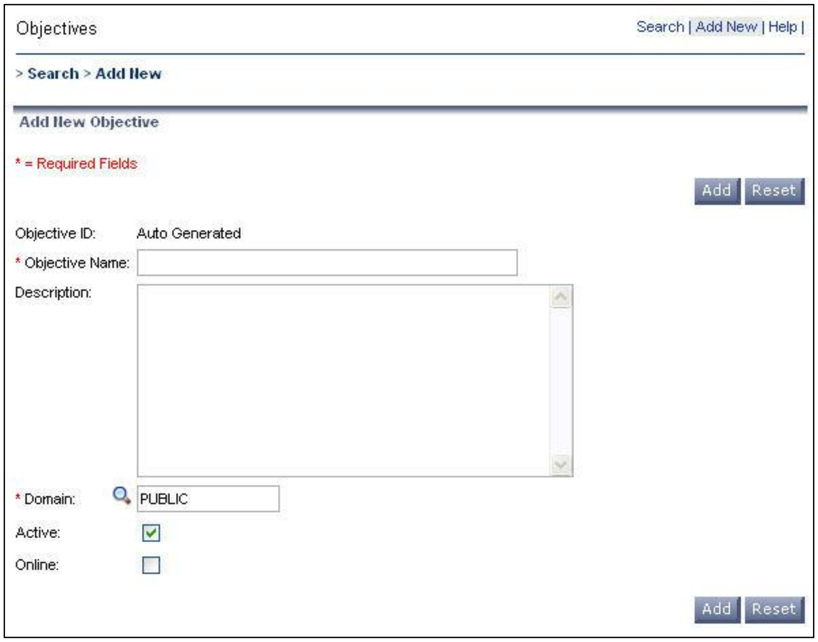


Figure 20. Add New Objective Screen

3. Enter all the required and optional information as appropriate.

4. Click the **Online** checkbox.

Note: *When you check this checkbox, learners can access content objects and exams that incorporate this objective. If the box is not checked, learners are locked out of any online material that incorporates the objective.*

5. Click **Add**.

   The objective is added and saved and you are taken to the Summary tab of the objective record (Figure 21).

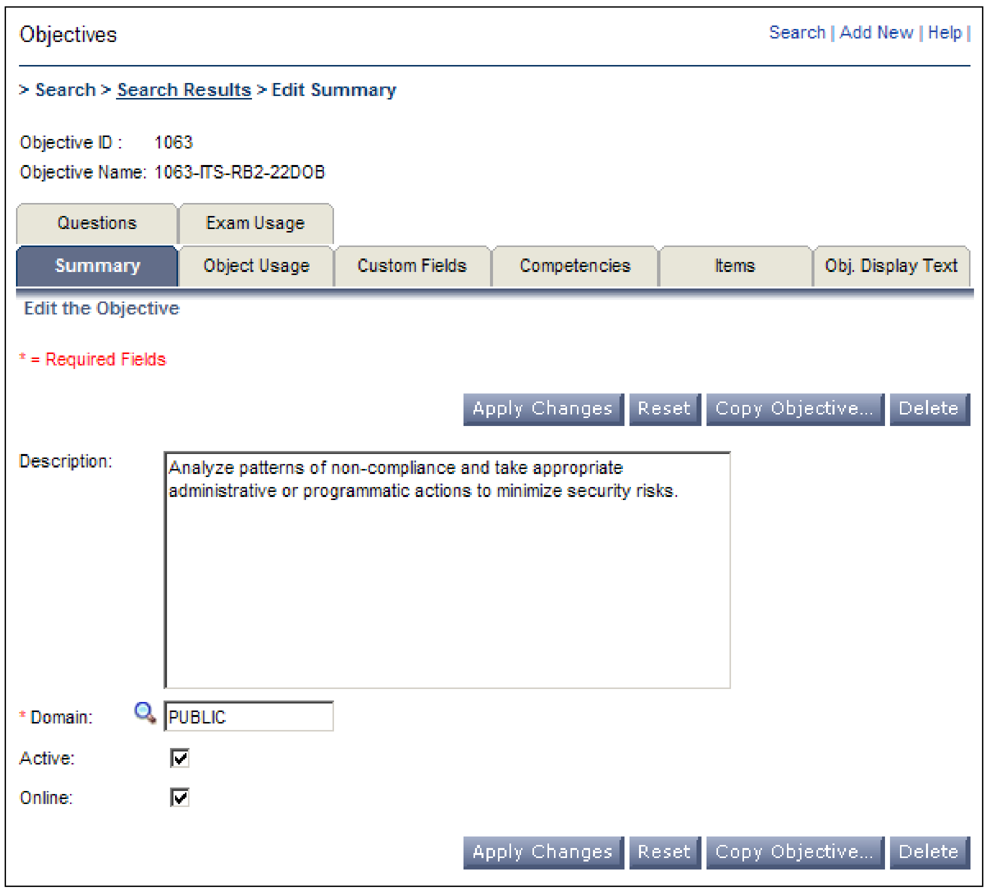


Figure 21. Summary Tab of Objective Record

If you select the **Questions** tab, you are only able to view the questions associated with this objective. To associate this objective to a question, you must associate via the question record:

1. Navigate to **Content > Questions**.
2. Search for the question and access the record in edit mode.
3. Expand the *Objective Information* section (Figure 22).

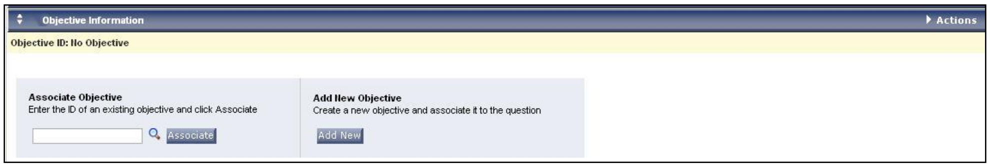


Figure 22. Objective Information Section of Question

4. Click the **select objective** icon ( ).

Note: *You can also use the Actions menu on the right to associate and add objectives to the question (Figure 23).*

Figure 23. Actions Menu to Associate Existing Objective

5. Enter search criteria in the *Objective ID Search* pop-up window.
6. Click **Search** and your search results are displayed (Figure 24).

Figure 24. Objectives Search Results

7. Click the **Select** link next to the objective you want to associate with the question.

   The objective ID is automatically entered into the textbox in the Objective Information section.

8. Click **Associate**.

   The objective is associated with the question (Figure 25).

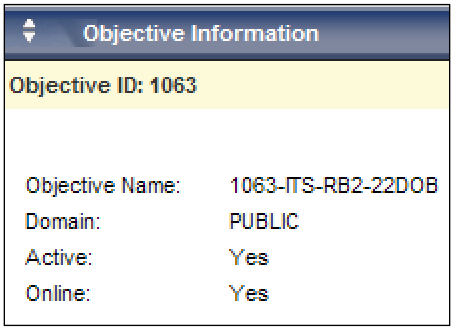


Figure 25. Objective Associated with Question

9. Click **Save** to save your changes.

Creating New Objectives While Editing a Question

To create a new objective while editing a question:

1. Navigate to **Content > Questions**.
2. Search for the question and access the record in edit mode.
3. Expand the *Objective Information* section of the screen (Figure 26).

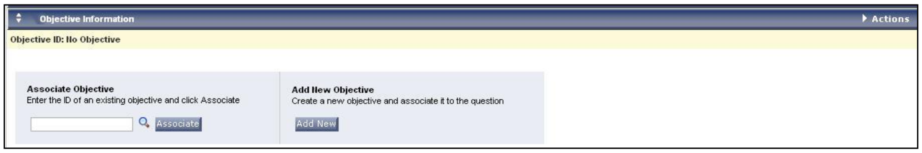


Figure 26. Objective Information Section

4. Click **Add New** in the Add New Objective section.

Note: *You can also select* ***Add New Objective and Associate*** *from the Actions drop-down menu.*

The *Add New Objective and Associate* pop-up window displays (Figure 27).

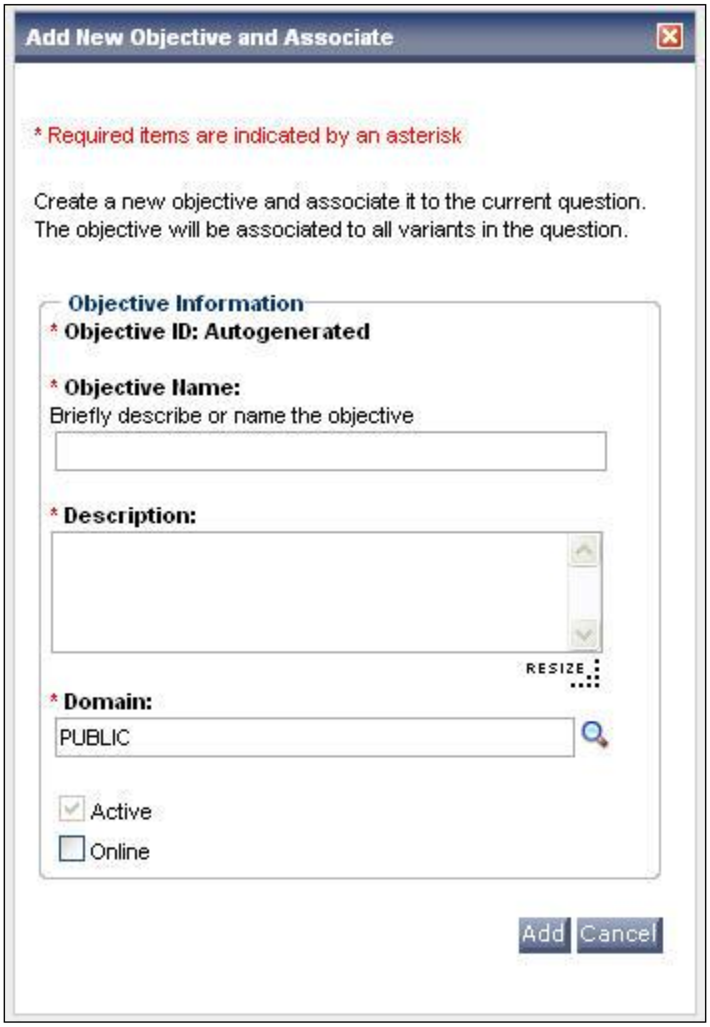


Figure 27. Add New Objective and Associate

5. Enter the required information: objective name, description, and domain.
6. Check the **Online** checkbox.
7. Click **Add**.

The new objective is added (Figure 28).

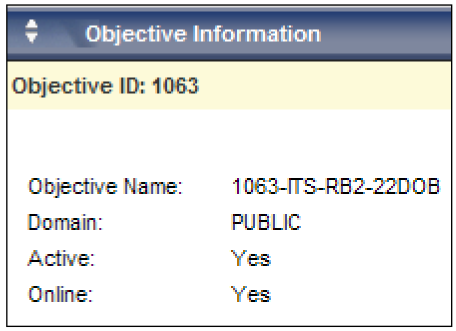


Figure 28. New Objective is Added

8. Click **Save**.

Once you have associated an objective to the question, the options in the Actions menu change. You are now able to change or remove the objective associated with the question (Figure 29).

Figure 29. Actions Menu for Objectives

Lab 4. Associating an Objective with a Question

Step

1. Log in to the admin interface of SATERN.

2. Navigate to **Content > Questions**.

3. Search for a question in SATERN.

Note: *See "Searching for Questions" for details on how to search.*

4. Access the question in edit mode.

5. Expand the *Objective Information* section of the screen.

6. Click the **select objective** icon ( ).

7. Enter search criteria in the Objective ID Search pop-up window.

8. Click **Search**.

9. Click the **select** link next to the objective you want to associate with the question.

10. The objective ID is automatically entered into the textbox in the Objective Information section.

11. Click **Associate**.

CONCLUSION

In this lesson, you learned how to create objectives and associate questions to the objective. You also learned how to tie objectives to content objects, build exams using objectives, and how the adaptive learning process works in the SATERN system.

You should now be able to:

- Identify basic concepts of working with objectives in PQE
- Create objectives
- Tie questions to objectives

LESSON CHECK

Use what you learned in this lesson to answer the following questions.

1. True or false:
   A question can be tied to more than one objective.

2. True or false:
   Objective IDs are automatically system generated.

3. True or false:
   Objectives must be created first in order to associate the question to an objective.

Course Summary

In this course, you learned the concepts and terminology associated with using PQE. You created questions and objectives used in online exams.

You should now be able to:

- Describe PQE
- Add and edit questions in SATERN using PQE
- Create question variants
- Create objectives
- Associate questions to objectives

Notes

PQE Extras

This section presents additional information on PQE:

- Question import/export
- PQE formatting toolbars and menus

QUESTION IMPORT/EXPORT

The goal for section is to use the Question Import/Export tool to migrate questions between environments.

Question Import/Export Assistant Main Concepts

Typically, the Question Import/Export assistant is used to migrate questions between the development, test, and production environments of SATERN. If, for example, you want to move questions from a development environment to a test environment:

1. Export the questions from the development environment.
2. Move the export file to the test environment.
3. Import it into the test environment.

When you import, you have the opportunity to include and exclude particular questions. You also see warnings in the Notes column if there is a conflict based on the export rules. You should always check the warnings and read the rules to make sure your import works smoothly.

The import/export assistant follows strict rules. To use the assistant effectively, it is important to read and understand the rules.

Export Rules

When you export questions, the system follows these rules:

- The export assistant exports the question as a “question package,” which includes all the questions and their active variants.
- The export assistant checks your domain privileges. If you attempt to export a question package that you do not have domain access to, the assistant will not export it.

Import Rules

The file you import was created using the export assistant, so the import rules implicitly include the export rules. For example, you can only import “question packages” because that is all the export assistant writes to the file. When you import questions, the system explicitly follows rules for importing questions and importing objectives.

Note: *Refer to the online help for more information on export and import rules.*

Export Questions

To export questions from SATERN using the Questions Import/Export assistant:

1. Navigate to **Content > Tools > Question Import/Export**.

   The *Step 1: Select Action* screen displays (Figure 30).

Figure 30. Step 1: Select Action

2. Click the **Export Questions** radio button.

3. Click **Next**.

   The *Step 2: Select Export File* screen displays (Figure 31).

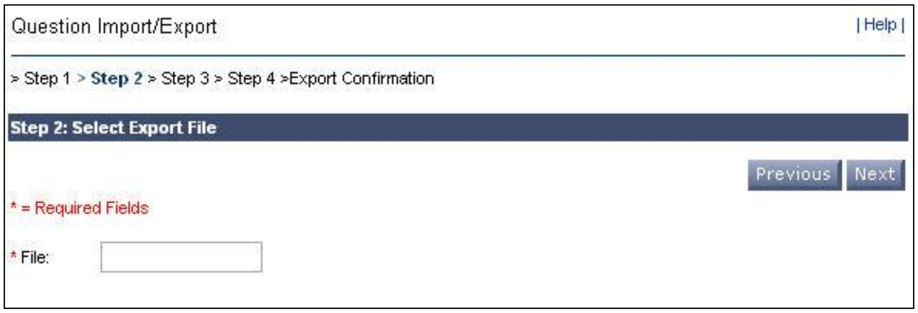


Figure 31. Step 2: Select Export File

4. Enter the name for the export file in the File textbox.

5. Click **Next**.

   The *Step 3: Add Questions* screen displays (Figure 32).

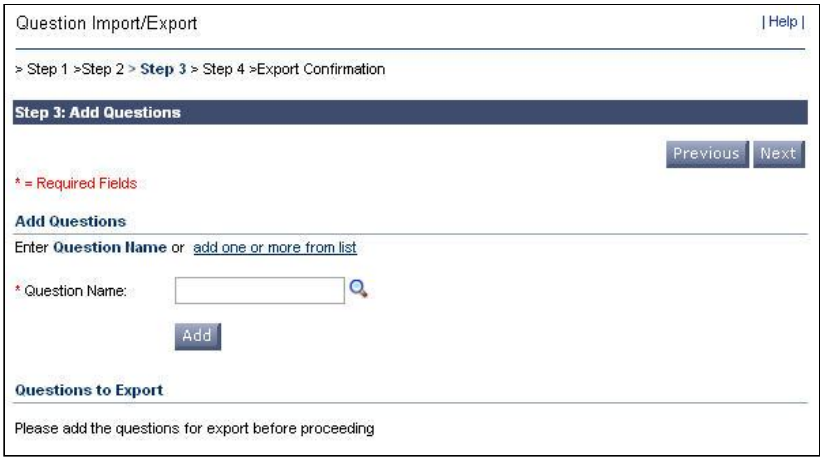


Figure 32. Step 3: Add Questions

6. Click the **add one or more from list** link (or the search selector icon).

A separate search window displays (Figure 33).

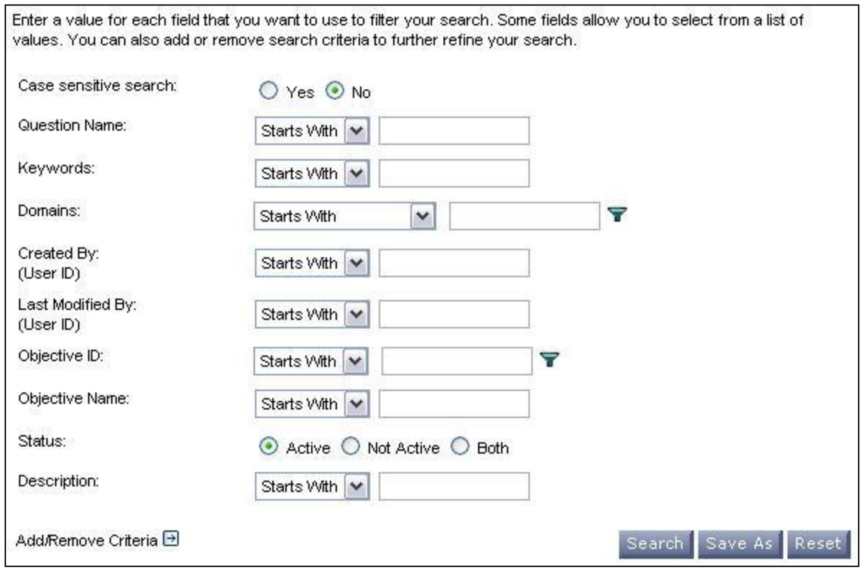


Figure 33. Search Screen

7. Enter search criteria and click **Search** to search for the questions to export.
8. In the search results list, click to check the question/objective checkbox (Figure 34).

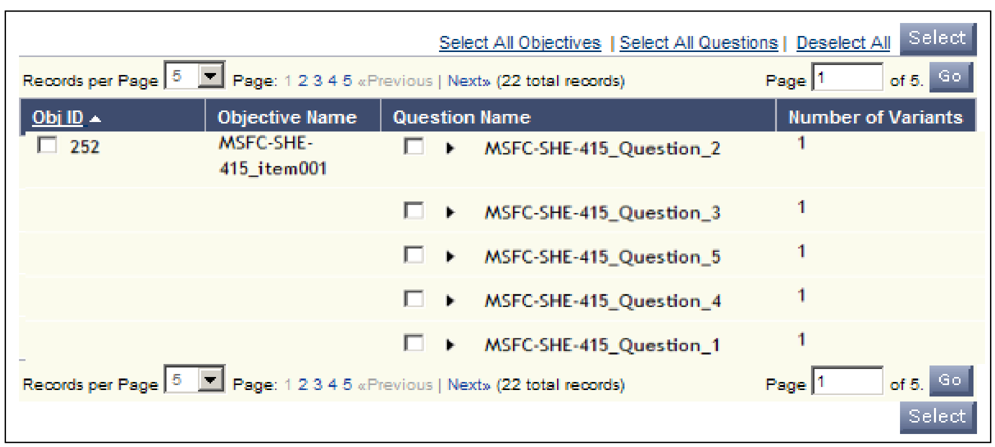


Figure 34. Search Results List

9. Click **Select**.

The selected questions are listed in the *Questions to Export* section of the screen (Figure 35).

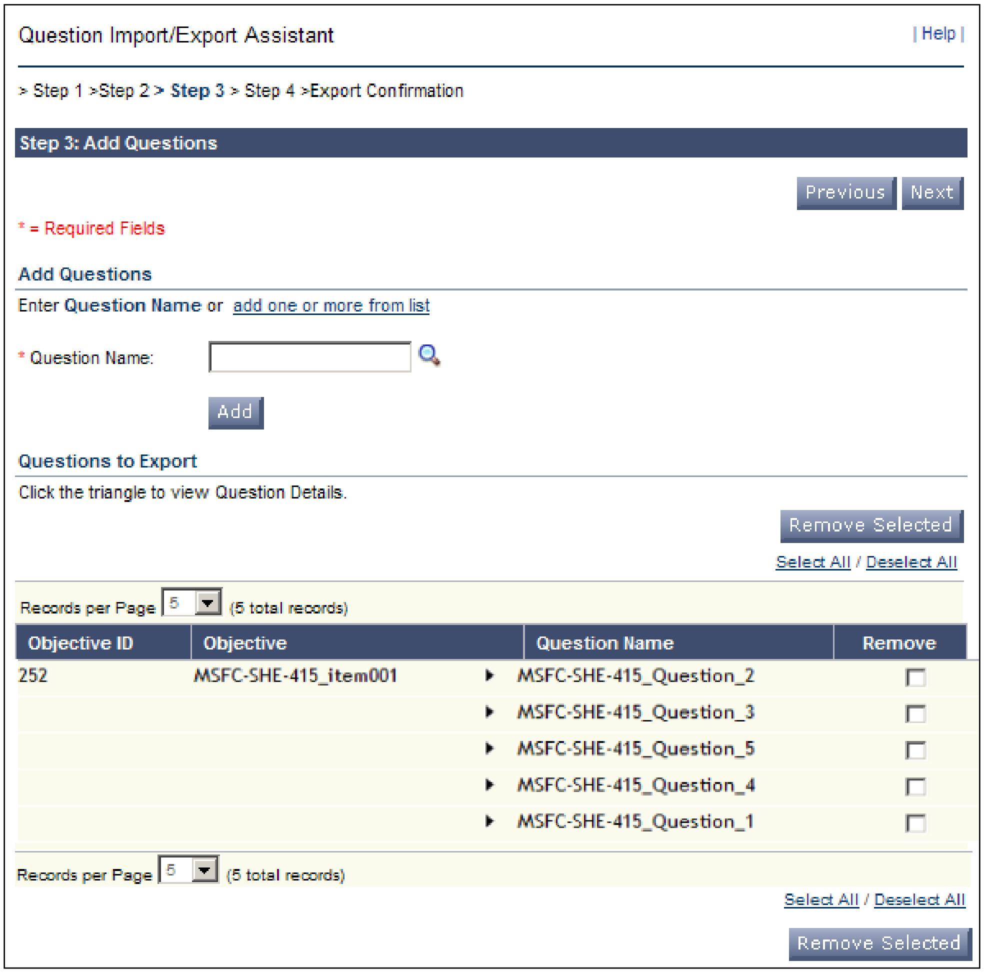


Figure 35. Selected Questions Listed

10. Click **Next**.

    The *Step 4: Export Summary* screen displays (Figure 36).

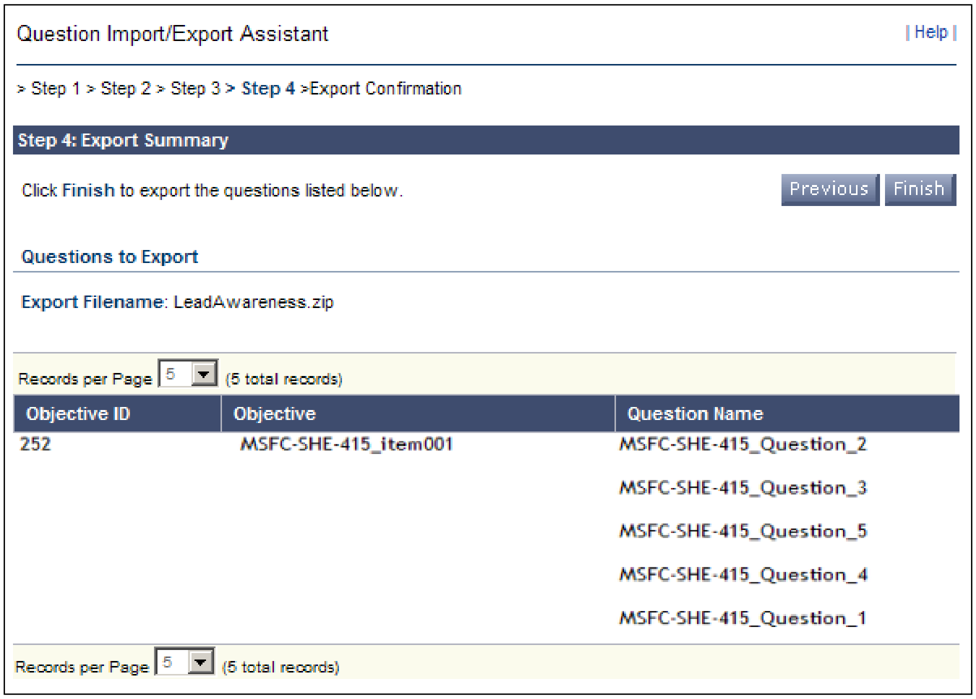


Figure 36. Step 4: Export Summary

11. Review the list of questions being exported on the *Export Summary* screen.
12. Click **Finish** (Figure 37).

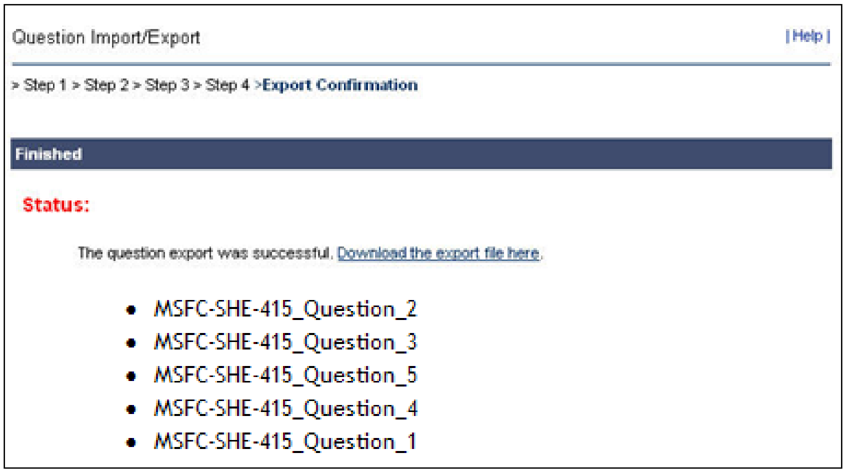


Figure 37. Export Confirmation Screen

13. Click the **Download the export file here** link to download and save the zip file.

Importing Questions

To import questions into SATERN using the Questions Import/Export tool:

1. Navigate to **Content > Tools > Question Import/Export**.

   The *Step 1: Select Action* screen displays (Figure 38).

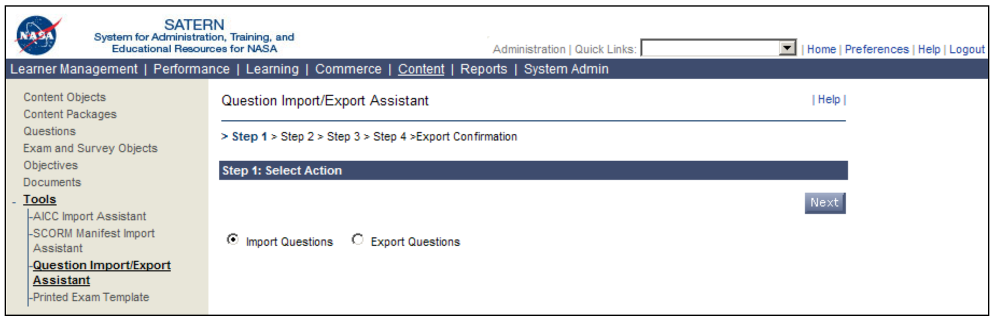


Figure 38. Step 1: Select Action

2. Click the **Import Questions** radio button.
3. Click **Next**.

   The *Step 2: Select File to Import* screen displays (Figure 39).

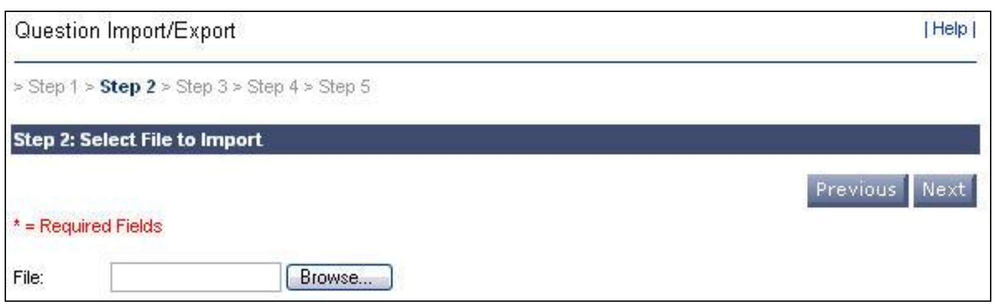


Figure 39. Step 2: Select File to Import

4. Click **Browse** to locate and select the file to import.

5. Click **Next**.

   The *Step 3: Analysis and Review* screen displays (Figure 40).

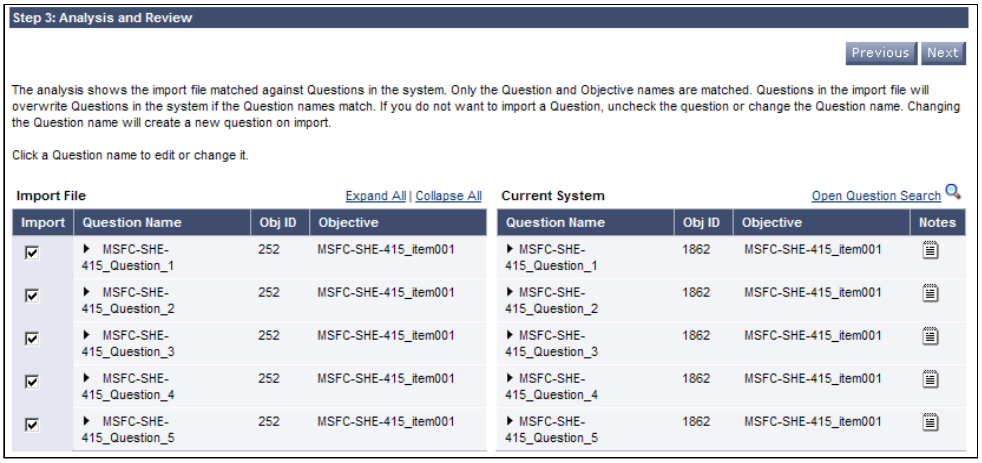


Figure 40. Step 3: Analysis and Review

6. Review the import file questions and the current system questions.

7. Roll the mouse over the **Notes** icon in the *Current System* list to see important notes about the question (Figure 41).

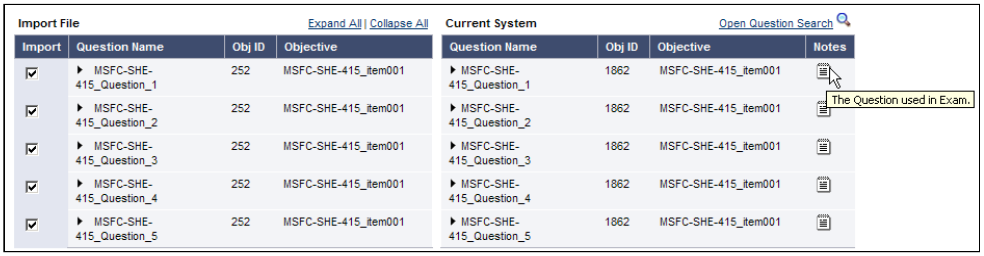
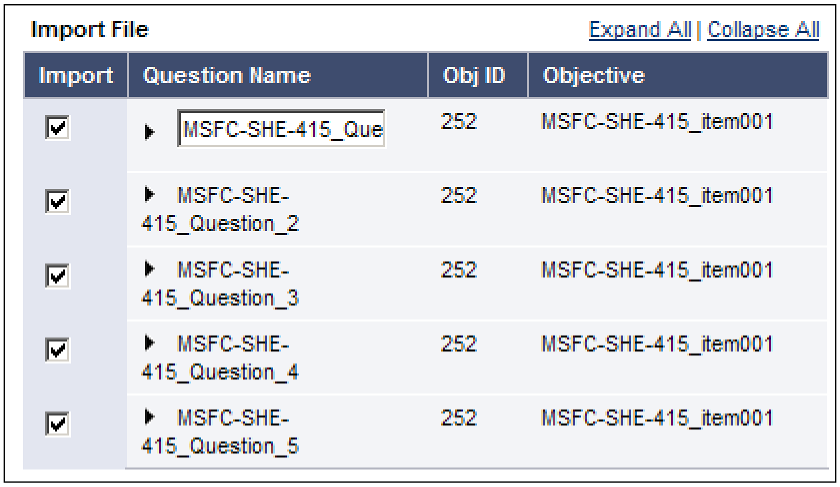


Figure 41. View Notes

8. Click the question name in the *Import File* list to edit the question name, if necessary (Figure 42).



Import File — Expand All | Collapse All

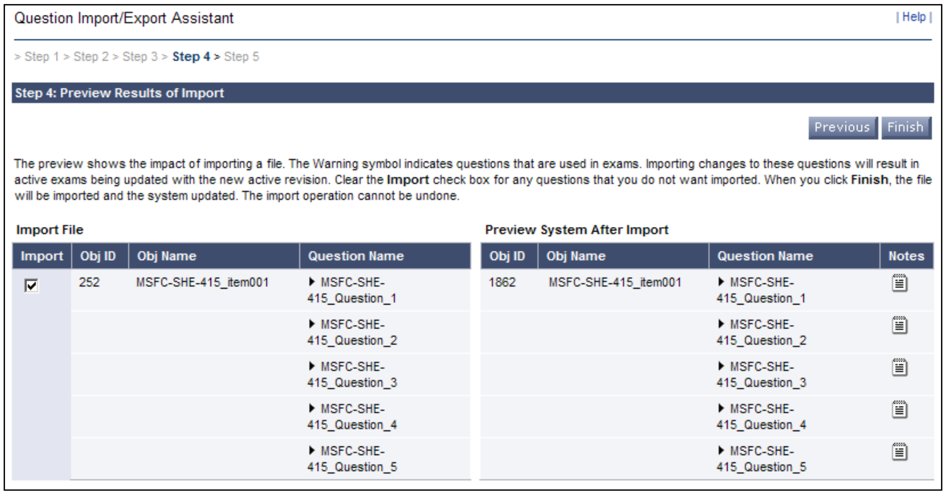
Import	Question Name	Obj ID	Objective
☑	MSFC-SHE-415_Que	252	MSFC-SHE-415_item001
☑	MSFC-SHE-415_Question_2	252	MSFC-SHE-415_item001
☑	MSFC-SHE-415_Question_3	252	MSFC-SHE-415_item001
☑	MSFC-SHE-415_Question_4	252	MSFC-SHE-415_item001
☑	MSFC-SHE-415_Question_5	252	MSFC-SHE-415_item001

Figure 42. Edit Question Name

9. If you do not want to import a particular question, click the **Import** checkbox to de-select the question to import.

10. Click **Next**.

    The *Step 4: Preview Results of Import* screen displays (Figure 43).



Question Import/Export Assistant | Help |

> Step 1 > Step 2 > Step 3 > **Step 4** > Step 5

Step 4: Preview Results of Import

Previous Finish

The preview shows the impact of importing a file. The Warning symbol indicates questions that are used in exams. Importing changes to these questions will result in active exams being updated with the new active revision. Clear the **Import** check box for any questions that you do not want imported. When you click **Finish**, the file will be imported and the system updated. The import operation cannot be undone.

Import File

Import	Obj ID	Obj Name	Question Name
☑	252	MSFC-SHE-415_item001	MSFC-SHE-415_Question_1
			MSFC-SHE-415_Question_2
			MSFC-SHE-415_Question_3
			MSFC-SHE-415_Question_4
			MSFC-SHE-415_Question_5

Preview System After Import

Obj ID	Obj Name	Question Name	Notes
1862	MSFC-SHE-415_item001	MSFC-SHE-415_Question_1	
		MSFC-SHE-415_Question_2	
		MSFC-SHE-415_Question_3	
		MSFC-SHE-415_Question_4	
		MSFC-SHE-415_Question_5	

Figure 43. Step 4: Preview Results of Import

11. Review the impact of the import.

12. Click **Finish**.

The *Finished: Import Confirmation* screen displays (Figure 44).

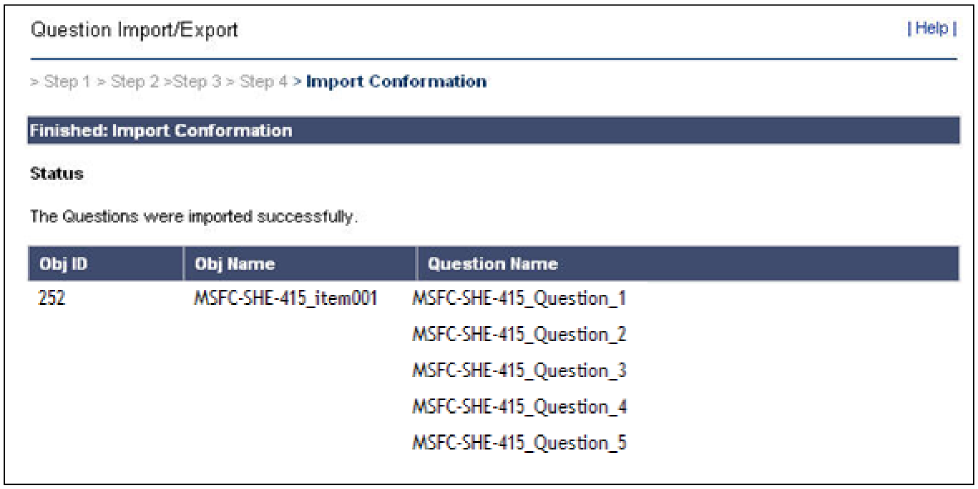


Figure 44. Finished: Import Confirmation

PQE FORMATTING TOOLBARS AND MENUS

Toolbars in PQE provide useful options as you work with questions. Figure 45 provides a guide to the available menu options for editing your questions in PQE.

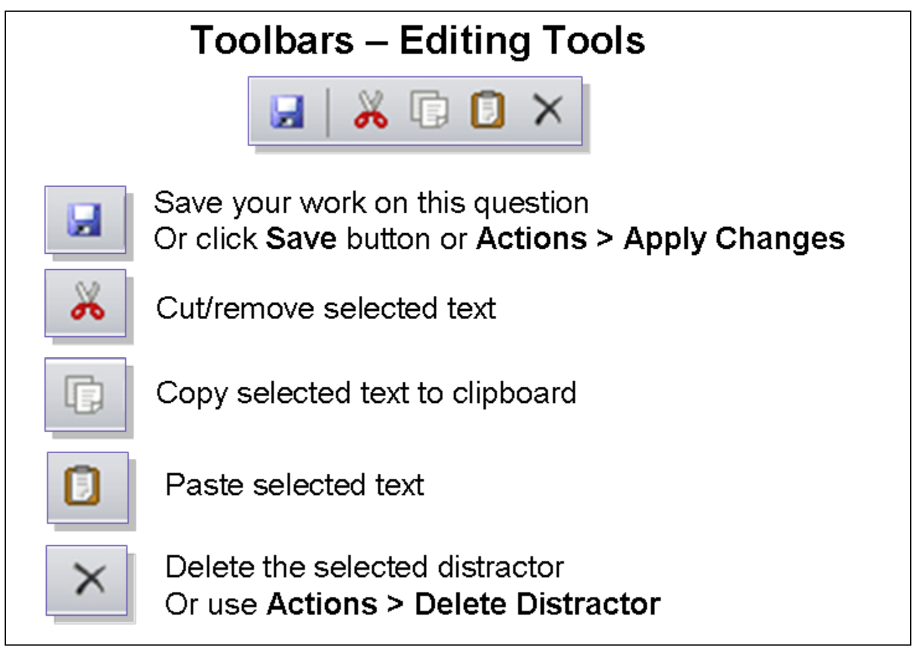


Figure 45. Question Editing Tools

You can also use these menus to set question options (Figure 46).

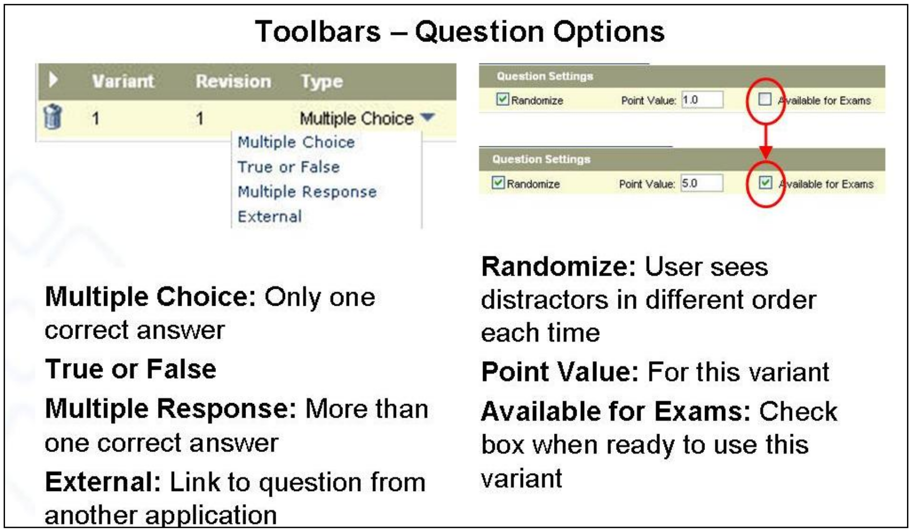


Figure 46. Question Options

Ideally, every question and its set of distractors should be formatted the same for one exam. For example, you may add a few graphics to some of the questions and you may vary your questions with true/false and multiple choice. You may also choose to “lock down” the distractors so that they do not randomize (this may be a preference for true/false questions so the distractors always display in the same order).

Formatting

SATERN provides a variety of ways to tailor the way you format questions. Many of the formatting options are similar to what you would use in Microsoft Word or PowerPoint.

Figure 47 provides a description of the options on the formatting toolbar.

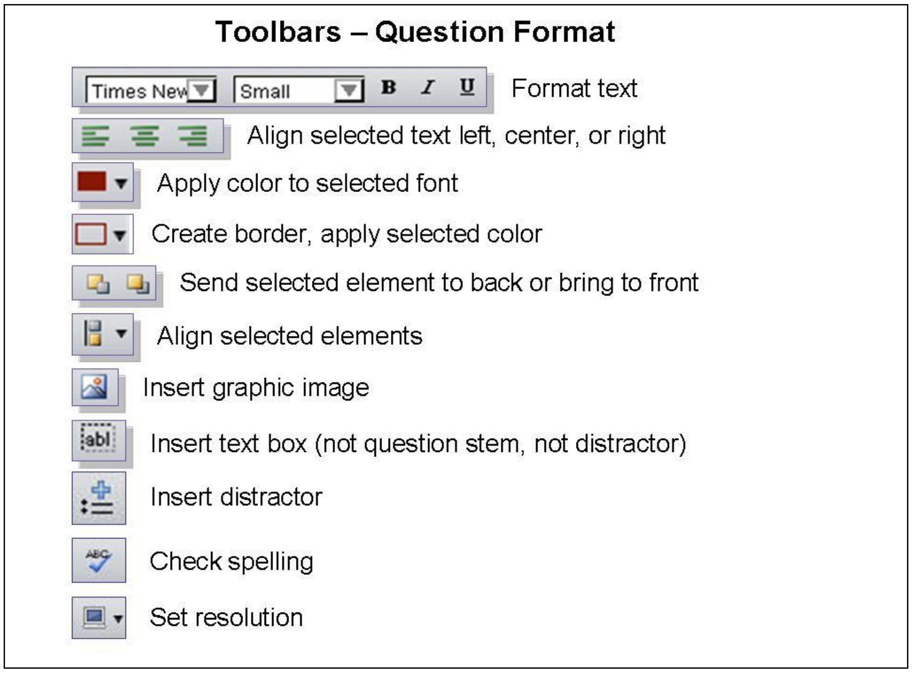


Figure 47. Question Formatting Options

Using these formatting tools, you can:

- Arrange question elements
- Insert a graphic, such as an image of the world map when asking a geography question
- Insert a textbox
- Create a border around a textbox
- Select the font for a question and apply a different color

To format questions:

1. Search for the question and access the question in edit mode.
2. Double-click in the textbox for the question stem and answers, and highlight the text to be formatted.

3. Use the formatting toolbar to change the text font, size, color, etc.
4. Click **Save** to save your changes.

Inserting Images

To add an image:

1. Search for the question and access the question in edit mode.
2. Click your mouse to place your cursor at the insertion point you want for the image.
3. Click the **insert image** button ( ).

   The *Add Image* pop-up window displays (Figure 48).

Figure 48. Add Image Pop-up Window

4. Click **Browse** to locate and select the image file you want to add.
5. Click **Open**.

   The file name is automatically entered in the Image File textbox in the *Add Image* pop-up window.

6. Click **Add** to display the *Add Image – Preview* window (Figure 49).

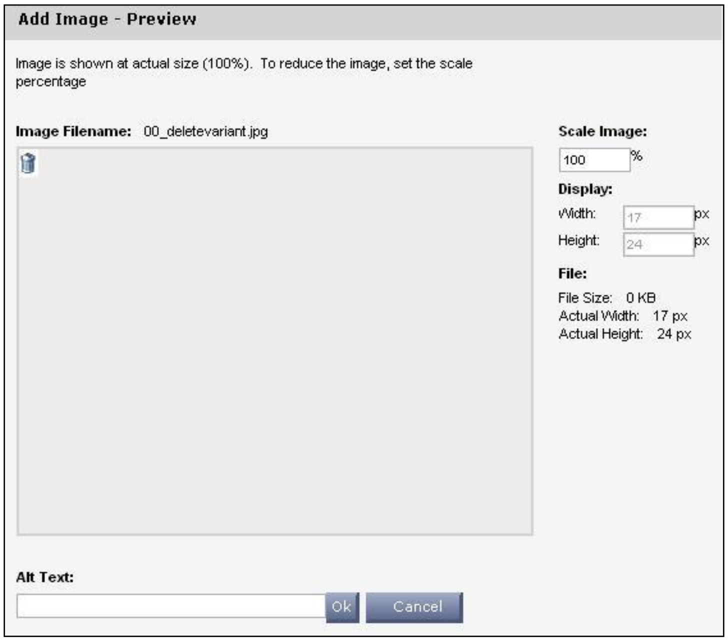


Figure 49. Add Image – Preview Pop-up Window

7. Set the image size as appropriate.

8. Enter alternative text (alt-tag) in the *Alt Text* text field.

Note: *The ALT attribute is designed to be an alternative text description for images. ALT is a required element for images and can only be used for image tags because its specific purpose is to describe images.*

9. Click **OK** to insert the image in the question at the insertion point.

10. Click **Save** to save your changes.

Checking Spelling

To use the spell checker to check spelling in your question stem, answer, and distractors:

1. Click the **Check Spelling** button ().

   The question workspace indicates that spell checker is on. Notice the incorrect word is underlined in red (Figure 50).

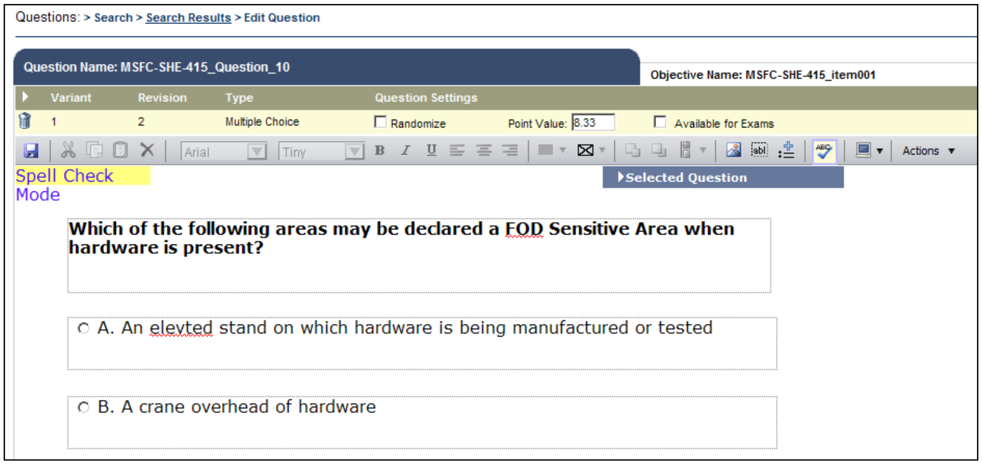


Figure 50. Spell Checker On

2. Click the word indicated as incorrect.

   A list of possible options is displayed (Figure 51).

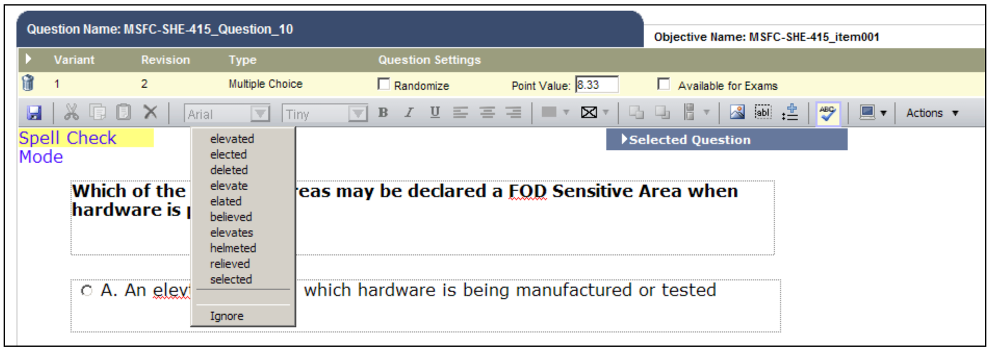


Figure 51. List of Possible Words

3. Select the correct word from the list or select **Ignore** to ignore the word.

4. If you selected a word from the list, the incorrect word is replaced with your selection (Figure 52).

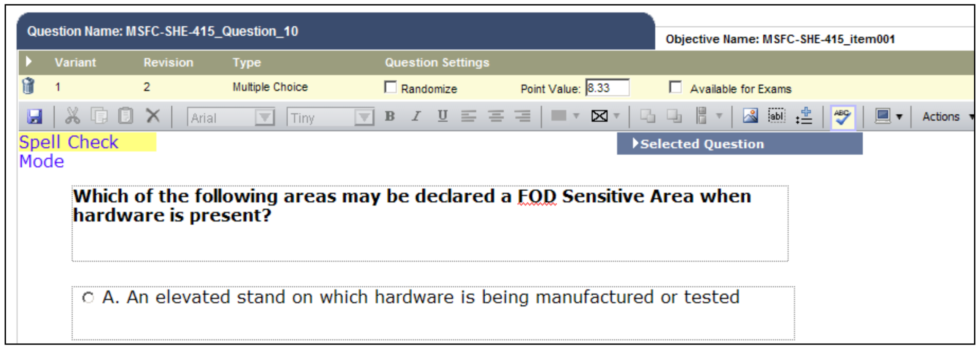


Figure 52. Misspelled Word Corrected

5. Click the **Spell Check Mode** yellow box to turn off spell checker.
6. Click **Save** to save your changes.